CLAIMS:

1. A CDMA communication system comprising at least one primary station (2) and a plurality of secondary stations (4), the primary station (2) and the secondary stations (4) exchanging CDMA signals (18) via a communication medium (6), the secondary stations (4) each comprising a modulator (10) for modulating a respective data signal (16) with a respective code word (14) in order to obtain a respective CDMA signal (18), the modulator (10) being embodied so as to modulate the respective data signal (16) with an initial code word until synchronisation with the primary station (2) is obtained, the modulator (10) being further embodied so as to modulate the respective data signal (16) with a respective final code word after synchronisation with the primary station (2) has been obtained, characterized in that the initial code word is substantially orthogonal to the final code words for every possible time shift of the initial code word.

2. A CDMA communication system according to Claim 1, characterized in that all symbol values of the initial code word are equal to each other.

3. A CDMA communication system according to Claim 1 or 2, characterized in that the code words (14) are Walsh-Hadamard codes and that the initial code word corresponds to the first row or the first column of the Walsh-Hadamard matrix.

4. A secondary station (4) for exchanging CDMA signals (18) via a communication medium (6) with at least one primary station (2), the secondary station (4) comprising a modulator (10) for modulating a data signal (16) with a code word (14) in order to obtain a CDMA signal (18), the modulator (10) being embodied so as to modulate the data signal (16) with an initial code word until synchronisation with the primary station (2) is obtained, the modulator (10) being further embodied so as to modulate the data signal (16) with a final code word after synchronisation with the primary station (2) has been obtained, characterized in that the initial code word is substantially orthogonal to the final code word for every possible time shift of the initial code word.

5. A secondary station (4) according to Claim 4, characterized in that all symbol values of the initial code word are equal to each other.

6. A secondary station (4) according to Claim 4 or 5, characterized in that the code words (14) are Walsh-Hadamard codes and that the initial code word corresponds to the first row or the first column of the Walsh-Hadamard matrix.

7. A method of synchronising a secondary station (4) with a primary station (2), the primary station (2) and the secondary station (4) exchanging CDMA signals (18) via a communication medium (6), the method comprising the steps of:
- modulating a data signal (16) with an initial code word (14) in order to obtain an initial CDMA signal (18) and transmitting the initial CDMA signal (18) to the primary station (2) until synchronisation with the primary station (2) is obtained,
- modulating the data signal (16) with a final code word (14) in order to obtain a final CDMA signal (18) and transmitting the final CDMA signal (18) after synchronisation with the primary station (2) has been obtained,
characterized in that the initial code word is substantially orthogonal to the final code word for every possible time shift of the initial code word.

8. A method of synchronising a secondary station (4) with a primary station (2) according to Claim 7, characterized in that all symbol values of the initial code word are equal to each other.

9. A method of synchronising a secondary (4) station with a primary station (2) according to Claim 7 or 8, characterized in that the code words (14) are Walsh-Hadamard codes and that the initial code word corresponds to the first row or the first column of the Walsh-Hadamard matrix.